

**Mary B. Rice, MD**  
**Professional Biography**

Dr. Rice has a longstanding interest in environmental exposures and respiratory health. She graduated from Harvard College in 1999 with a degree in environmental science and public policy. After working in New York City as a consultant and completing premedical studies, she spent a year pursuing research and public policy analysis at the Columbia University Center for Children's Environmental Health, where she studied air pollution, genetic susceptibility, and pulmonary outcomes in a birth cohort of children in New York City. As a medical student at Harvard Medical School, she joined Students for Environmental Awareness in Medicine, a student-run nonprofit. She led the organization as a second year student and organized a conference on health and the environment in Washington DC, and met with senators and staff about air pollution and health. She also developed a small community-based participatory research project in collaboration with Tufts and Boston University to study the prevalence of asthma and environmental triggers in the low-income community of Dorchester. As a resident, she worked with Dr. David Christiani of Massachusetts General Hospital, investigating the effects of particulate matter exposure on lipid levels in a cohort of welders, which resulted in a first author publication in the *Journal of Occupational and Environmental Medicine*. She then pursued clinical and research training in pulmonary and critical care medicine at Harvard Medical School, with the goal of understanding how respiratory health is affected by environmental exposures.

As a pulmonary fellow, she selected as a primary research mentor Dr. Murray Mittleman, a physician epidemiologist at Beth Israel Deaconess Medical Center and the Harvard School of Public Health with expertise in epidemiologic methods and environmental epidemiology. Under Dr. Mittleman's mentorship, Dr. Rice completed coursework for a Master's Degree in Public Health at the Harvard School of Public Health (graduation March 2015). She successfully obtained an F32 NRSA career development award from the National Institute for Environmental Health Sciences to study air pollution exposure and lung function in the Framingham Heart Study. This research has resulted in important scientific findings. In particular, Dr. Rice and colleagues found that previous-day exposure to criteria air pollutants, within current EPA standards, was associated with lower lung function in the Framingham Heart Study. Secondly, Rice and colleagues found that long-term estimates of traffic and particulate air pollution exposure are associated with accelerated lung function decline, of a magnitude similar to the effect of former smoking. These findings resulted in two first author manuscripts in the *American Journal of Respiratory and Critical Care Medicine* and a first place award in the 9<sup>th</sup> Annual Respiratory Disease Young Investigators' Forum.

Dr. Rice is a member of the faculty of Harvard Medical School and Beth Israel Deaconess Medical Center and was promoted to the position of Instructor in Medicine in July, 2014. She is board certified in internal medicine, pulmonary disease and critical care medicine. She spends 75% of her effort investigating associations between measures of long-term exposure to ambient air pollution and pulmonary structural abnormalities in generally healthy adults and has proposed new research to study associations between measures of daily pollution exposure and lung function and respiratory symptoms in adults with chronic obstructive pulmonary disease (COPD). She serves on the faculty advisory committee of the Harvard Center for Human Health and the Global Environment and on the Environmental Health Policy Committee of the American Thoracic Society. As a clinician, Dr. Rice cares for ambulatory patients in her general pulmonary clinic and for hospitalized patients on the wards and in the intensive care unit of Beth Israel Deaconess Medical Center.